1090-WP-14-22
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RTCA Special Committee 186, Working Group 3

ADS-B 1090 MOPS, Revision A

Meeting #14

Suggested Changes to the DO-260 Version of Appendix C

Presented by: William Harman

SUMMARY
This Working Paper identifies several changes to the DO-260 version of Appendix C in order to integrate it into DO-260A.

Comments on Appendix C (aircraft antenna gain)
26 Sept. 02, Harman

Replace the original final paragraph:

> In summary, the probability distribution of antenna gain values given in Ref. C-4, page 18 is a useful characterization of aircraft antenna gain deviations caused by banking, obstructions, and reflections. It is the product of model measurements made on a number of aircraft, including both general aviation and air carrier types, and a number of possible antenna locations on each. This data was used in designing the air-to-air power budget for TCAS, and could be used for air-to-air and air-to-ground transmission-reception of Extended Squitter signals.

with two paragraphs:

An explicit mathematical model for aircraft antenna gain is given in the TLAT report (ref. C-5). This is a stochastic model that is consistent with the frequency of occurrence of antenna-gain values in ref. C-4, and includes a formula to characterize the effects of elevation angle for top and bottom antennas. This antenna-gain model was used for the performance assessments made in the TLAT Report.

In summary, the probability distribution of antenna gain values given in Ref. C-4 and C-5 is a useful characterization of aircraft antenna gain deviations caused by banking, obstructions, and reflections. It is the product of model measurements made on a number of aircraft, including both general aviation and air carrier types, and a number of possible antenna locations on each. This data was used in designing the air-to-air power budget for TCAS, and has been used for air-to-air and air-to-ground transmission and reception of Extended Squitter signals.

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Ref. C-5. *The ADS-B Technical Link Assessment Team (TLAT) – Technical Link Assessment Report*, March 2001, Appendix J.
(http://www.faa.gov/safeflight21/documents/tlat/index.html)